RESEARCH

Characteristics of Experiential Education Web Sites of US Colleges and Schools of Pharmacy

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Objective. To evaluate the characteristics of experiential education Web sites of colleges and schools of pharmacy in the United States.

Methods. The experiential education Web pages of 124 US colleges and schools of pharmacy were reviewed for office or program name, practice experience management software, experiential education newsletter, practice experience manual, preceptor development programs, new preceptor application processes, and interactive Web site interfaces.

Results. The term "office of experiential education" was used by 27.4% of colleges and schools. Fifty percent of the colleges and schools used E-value as their practice experience management software. Only a minority of colleges and schools made experiential manual(s) available online, offered newsletters targeted to preceptors, and/or provided Web site interactive interfaces for preceptor communication. The *Preceptors Training and Resource Network* was the preceptor development program most frequently promoted.

Conclusions. The majority of US colleges and schools of pharmacy have official Web sites for their experiential education program; however, few offer resources online or use interactive or social media to their advantage.

Keywords: experiential education, Internet, Web site, preceptor

INTRODUCTION

Experiential education programs within colleges and schools of pharmacy must communicate with and provide information to preceptors and students about their programs and practice experiences. Printed materials and phone have historically been the main types of communication used by experiential education offices and are still employed. However, in the last 15 years, the Internet has become the primary means of rapidly disseminating information about processes and procedures, as well as news relevant to experiential education. To facilitate navigation and use, Web site design is critical and should be regularly evaluated. Web-based information and downloadable documents need to be easy to find and provide the resources that Web site visitors are seeking. New innovations in social media allow two-way communication between the school and Web site visitors, the content of which, unlike e-mail, is visible to other visitors and may contain useful information.

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The Office of Experiential Education at the UNC Eshelman School of Pharmacy was interested in improving the utility and appearance of its experiential education Web site and the information provided therein. To evaluate the Web site, a review of other colleges' and schools' experiential education Web sites was undertaken to gather "best practice" ideas. A literature search revealed no other studies on the content or quality of experiential education Web sites in pharmacy or other health professions literature. Therefore, the publically available experiential education Web sites of US colleges and schools of pharmacy were viewed and a comprehensive assessment of select characteristics was conducted.

METHODS

A comprehensive list of all US colleges and schools of pharmacy was accessed through the American Association of Colleges of Pharmacy (AACP) Web site using the Pharmacy School Locator engine.[1] Each of the 124 Web sites was visited and studied from June 25 to July 5, 2012. If a Web site link was found to be inactive, a general Internet search was conducted for the college or school. Once at the main Web site, the experiential education pages were located by identifying terms such as

"experiential education," "preceptors," and "practice experiences" on the main page or on subpages. If no apparent links were present, the Web site's search engine was used to search for the terms "experiential" and "preceptor." Only experiential education Web sites that were publically available were sought; thus, if a college or school only had a private Web site for their preceptors and students, this was not included in the study.

Information was collected on several aspects of each site. The official name of the experiential education program or office was noted. The student practice experience management software used by the college or school was identified, including if a direct link was provided for preceptors and students. The availability of a newsletter specifically from the experiential education office was determined and the format in which it was available (eg, downloadable document or Web-embedded) was noted. Newsletters were judged to be "active" if the most recent edition had been posted within the last 6 months and "old" if posted more than 6 months before. Links to an overall school-based newsletter were not counted. The availability and format of any experiential education manual(s) for students and/or preceptors was recorded.

Preceptor development is an important function in experiential education so any programs being promoted or links provided were noted, including format and online accessibility. Whether the site provided instructions for Web site visitors who wanted to become preceptors was noted, particularly if a downloadable application or a Web-based online application process was available. Finally, whether the experiential education Web site included any social media or other Web-based forums through which students and/or preceptors could communicate directly with the experiential education staff was documented.

All data was recorded for analysis on a Microsoft Excel spreadsheet. Descriptive statistics were used for all data evaluation. The project was approved by the institutional review board at the University of North Carolina at Chapel Hill.

RESULTS

All of the 124 US colleges and schools of pharmacy Web sites visited provided a Web page devoted to experiential education, though the amount of information and detail varied widely. Some sites were limited to a single page with text describing practice experiences in the curriculum, while others had multiple pages with many subpages embedded that contained documents, slides, videos, and/or external links.

The most common name for experiential education offices or programs was "Office of Experiential Education" (27.4%). Eighteen colleges and schools referred only to "Experiential Education," without reference to an official office, program, or other term. "Experiential Program" or "Experiential Education Program" was used by 16 colleges and schools (13%). Twenty-three colleges and schools (18.5%) did not specify an official name for their experiential education office or program on the Web site. A complete list of names of offices and programs used for experiential education is provided in Table 1.

Regarding practice experience management software, E-value (Advanced Informatics Solutions, Minneapolis, MN) was the most commonly used, with 62 colleges and schools (50%) offering links to this program on their Web sites. Two schools noted their online evaluation system as "PEMS," though this system is inactive and has now become E-value. Eleven (8.9%) colleges and schools used RxPreceptor (Academic Suite Rx, West Warwick, RI). Four (3.2%) colleges and schools used PharmAcademic (McCreadie Group, Ann Arbor, MI), and 2 used SUCCESS (System of Universal Clinical Competency Evaluation in the Sunshine State, Success

Table 1. Official Names of Experiential Education Offices and Programs at Colleges and Schools of Pharmacy, N = 125

Name	Colleges and Schools Using This Name, No. (%)
Office of Experiential Education	34 (27.4)
Experiential Education	18 (14.5)
Experiential Program	8 (6.5)
Experiential Education Program	8 (6.5)
Office of Experiential Programs	6 (4.8)
Professional Experience Program	5 (4.0)
Office of Experiential Learning	3 (2.4)
Experiential Learning	2 (1.6)
Experiential Learning Program	2 (1.6)
Pharmacy Practice Experience(s)	2 (1.6)
Division of Experience Education	1 (0.8)
Division of Experiential Programs	1 (0.8)
Division of Experiential Education	1 (0.8)
Experiential Education Office	1 (0.8)
Experiential Learning Office	1 (0.8)
Experiential Pharmacy Education	1 (0.8)
Experiential Training Program	1 (0.8)
Office of Experiential Training	1 (0.8)
Office of Pharmacy Practice Experience Program	1 (0.8)
Office of Professional Education and Community Engagement	1 (0.8)
Office of Professional Pharmacy Education	1 (0.8)
Pharmacy Experience Program	1 (0.8)
Pharmacy Experiential Education	1 (0.8)
Not specified on Web site	23 (18.7)

Software Code, University of Florida). Unique online practice experience management programs noted on Web sites were Preceptor Practicum (University of Washington, Seattle), CS2 (Clerkship Software System, University of Illinois, Chicago), Apollo (Roseman University of Health Sciences, Henderson, NV), and PEP (Professional Experience Program, Nova Southeastern University, Fort Lauderdale, FL). Thirty-five colleges and schools (28.2%) did not mention any practice experience management software on their Web site nor provide an embedded link. Three colleges and schools (2.4%) used a paper evaluation system, with evaluation forms available on the Web site and/or in online manuals.

Ninety-eight Web sites (79%) had no reference to an experiential education newsletter. Thirteen sites provided links to outdated experiential education newsletters, most of which were more than a year old. Thirteen colleges and schools (10.4%) had active experiential education newsletters, 2 of which had integrated their newsletters into their Web site. The other active newsletters were saved as downloadable documents on the Web site.

Experiential education manuals were available on the Web sites in various forms. Downloadable manuals in document form were openly available on 39.5% of sites. Three colleges and schools provided links to restricted sites that contained their manuals. Three sites had experiential education manuals as embedded Web pages and 1 site offered its manual as a video link. However, more than half (54.8%) of the experiential education Web sites did not have manuals openly available on their Web sites.

Sixty-six percent of experiential education Web sites provided some description or instructions about preceptor development and training opportunities. Thirty-four percent of colleges and schools, however, did not provide any information about preceptor training opportunities. Of those that did mention preceptor training, the majority (87%) promoted the Preceptor Training and Resource Network from the *Pharmacist's Letter*. In fact, 45% of experiential Web sites with preceptor training noted listed only this development opportunity. Eight colleges and schools (9.7%) promoted the Collaborative Education Institute Web site for preceptor development. Approximately 23% of colleges and schools promoted the Community Pharmacist Preceptor Education Program, jointly offered by the American Pharmacists Association and National Association of Chain Drug Stores, and 7.3% directed preceptors to the preceptor development resources available on the American Society of Health-System Pharmacists Web site. Twenty-two percent of Web sites that mentioned preceptor training also provided documents and/or slides covering a variety of topics, but mostly related to orientation and introductory information for new preceptors. Only 10 colleges and schools (12%) used technology such as videos or podcasts to provide online preceptor training opportunities.

To become a new preceptor, the majority (53%) of colleges and schools offered some means of applying online, though 47% did not provide any directions on how to apply. Of those colleges and schools with an application process on their Web site, 47% provided a downloadable form that could be mailed or faxed to the experiential education office, 30% provided contact information for a member of the experiential education office who would send an application to the prospective applicant, and 18% provided an online form directly on the Web site.

Technologically interactive Web sites were rare. Only 1 college maintained an active Facebook and Twitter account devoted to experiential education, and 1 school offered an online poll of students about "best experiences" through their experiential education Web site. At 2 sites there was evidence of inactive blogs and discussion boards in the experiential education section, although 1 of these sites did maintain an active announcements page for experiential education.

DISCUSSION

While the complexity and functionality of the experiential education Web sites for colleges and schools of pharmacy varied, some general trends were observed. The majority of colleges and schools used the name "Office of Experiential Education" and the majority used the E-value practice experience management software. Despite being a higher-cost product compared with other similar software, E-Value may have been the product of choice for most colleges and schools because of features such as availability of useful tools and reports, use of a pharmacist user group whose feedback is valued and acted upon, access to company resources to efficiently manage large amounts of information, and the ability to benchmark performance data, such as the opportunity to compare student, educator, course, site, and institutional performance against peer colleges and schools without incurring an additional fee.

While all experiential programs are likely to have practice experience manuals for preceptors and students, only a minority made these available on their Web sites. This may have been because traditional paper manuals were preferred. Also, electronic versions of their manuals may have been available but were sent directly to preceptors and students rather than posting them on the Web site.

Only a small number of sites had experiential education newsletters. Newsletters are a convenient means of communicating news and events to preceptors, though

they can be difficult to maintain even if offered only quarterly, as evidenced by the old newsletters (>6 months old) posted on some sites. Several experiential education Web sites provided links to their college's or school's main newsletter.

Use of new technology or social networking also was limited on experiential education Web sites. Given the popularity of discussion boards and social media sites like Facebook among students as well as many preceptors and faculty members, technology appears to remain a largely untapped opportunity for experiential education sites as a means for users to share information and experiences.[2,3]

The *Pharmacist Letter's* Preceptor Training and Resource Network is a robust and comprehensive resource that many colleges and schools rely on as their primary source for preceptor training.[4] The *Pharmacist's Letter* has provided free access to this resource network to all US colleges and schools of pharmacy. The resource network includes preceptor continuing education (home-based courses and live webinars), sample student syllabi, activities, assignments and schedules, introductory pharmacy practice experience and advanced pharmacy practice experience teaching tools and resources, end-of-practice experience examinations, and a preceptor discussion board. As institutional budgets continue to be constrained, this is an unrivaled free resource that can help colleges and schools meet Accreditation Council for Pharmacy Education (ACPE) standards without incurring additional costs.

For those experiential education Web sites without an online or electronic preceptor application process, operational efficiencies could be gained from implementing one. As there are many critical processes and data collection needs as well as limited allocation of human resources in many offices of experiential education, efforts to transition to paperless operations are valuable and afford significant time savings. The lack of an online preceptor application system on many of the sites may be because their system of having preceptors contact their offices to request forms, either paper or electronic, is satisfactory for their needs.

One purpose of this study of experiential education Web sites was to determine the ease of accessibility of information for students, preceptors, and potential preceptors. However, the uniqueness of each Web site made it challenging to locate specific sections and items of interest. Some Web sites provided obvious links for experiential education or preceptors directly on the homepage of their college or school's Web site, while others only provided access to these pages through secondary links on the home page such as "Programs and Offices" or "PharmD Program." While contacting colleges and schools individually for assistance in locating experiential education information might have changed some of the results reported here (eg, more online newsletters or manuals found), doing so was beyond the scope of this study. Another limitation is that there was no way of determining the amount (if any) of information, documents, or programs accessible only through restricted areas of the Web sites. For example, colleges and schools that posted newsletters, manuals, or the like within their practice experience management software thereby restricted access to these materials by the researchers.

It would be useful for AACP and its Experiential Education Section to develop guidelines on what resources and general information should be made available to preceptors and/or students regarding introductory and advanced practice experiences. Experiential education Web sites then could be populated with this information (such as outcomes expected of students, pedagogical methods that best enhance learning, access to promotion and tenure requirements, continuing professional development opportunities at the school, etc), allowing prospective and new preceptors to self-direct their initial orientation to the college's or school's professional education program and become better-informed academic partners.

CONCLUSIONS

The content of experiential education Web sites varies significantly among US colleges and schools pharmacy. While the majority of programs had the same official name and used the same practice experience management software, the availability of practice experience manuals and newsletters online was lacking. Also, only a few sites were using interactive technology and/or social media software. Opportunities to enhance communication and engagement with experiential education stakeholders through the use of social media and online systems should be explored. The lack of consistency in the availability of online experiential education information points to the need to develop a set of "best practice" guidelines in partnership with AACP and ACPE.

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